A COMPARATIVE STUDY ON THE EFFECTS OF CORE TRAINING AND YOGA ON MENSTRUAL PAIN AND SELECTED PHYSIOLOGICAL VARIABLES OF ADOLSENCENT GIRLS

A

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May, 2023.

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ABSTRACT

Background: Menstrual pain is a common gynaecological complaint due to an imbalance of progesterone. It may also affect the adolescent girl's quality of life. Physical and psychosocial problems such as abdominal cramps and fatigue during the menstrual period affect daily activities, social relationships, and the school's academic performance. Yoga, one of the non-pharmacological therapies, is a technique to reduce menstrual discomfort.**Purpose:**The aim of the study is a comparison of the effects of Core and yoga on menstrual pain and Selected Physiological variableof adolescent girls. **Methods :**The experimental design based on the random group design and have included pre and post-test to know the effects of core training and yoga on Menstrual pain and physiological variables among adolescence girls. All three groups comprised of adolescence girls diagnosed with moderate to strong menstrual pain, and nearby Gwalior. Both Experimental Groups will be given Yoga training and Core training for Menstrual pain , Total subjects=30, Age Group= 18-20Years.**Conclusion:** Regular yoga is an effective and recommended way for adolescents to reduce menstrual pain and improve their quality of life during the menstruation period.

FINDING : The present study identified that influence Reducing pain of Adolescent Girls.

Keywords: Menstrual Pain; Yoga; Adolescent Girls; pain duration, Core training, Physiological variable.

CHATER-1

INTRODUCTION

Yoga is a unique form of exercise used to improve health and fitness by incorporating the mind, body and spirit. Reported benefits of yoga include increased circulation, improved respiration, improved cardiac function , improved mental well being and focus, increased flexibility and increased muscle strength (Kelley et al 20). Asanas & Pranayama are the part of yoga practices and Aerobic exercises cover walking, swimming, cycling, jogging, stepping, aerobic dance and practically any rationalized physical activity. These are capable of rejuvenating the human mind and body. Specifically, when a baby girl born, in nearer future she is likely to be a wife and a mother. Menarche is a natural phenomenon that is gifted to the girls by God andthis emotional challenges before the onset of this cycle .Patanjali has defined yogaasanas mean that 'position which is comfortable and steady'. The hatha yogis, however, found that certain specific body positions and asanas, open the energy channels and psychic centers. They found that it developing control of the mind and energy. Through the observation of animals, the Rishis understood, through experience, the effects of a particular posture and how the hormonal secretions could be stimulated and controlled by it. Yogasanas have often been thought of as a form of exercise. Asana is not an exercise it is a complementary to exercise

Physical education as well as sports are considered an essential part of learning. It deals with the human body based on scientific advancement. Sportsperson is giving outstanding performance because of drastic changes in training methods. This advancement also improved the sports techniques, tactics, sports gears and equipments (Mateveyer.L, 1981). In today‟s era, different kind of sports and activities related to physical fitness are neither performed to get a body which is muscular nor for entertainment but rather for a

specific purpose. The sports which are associated with the field are mostly admired within adults, children and adolescents. The exercises related to physical fitness and sports provide a number of benefits to health that are pursued by all sportsmen .To deal with different types of issues linked with health, the most effective ways are Aerobic and Yoga. Both training methods are effective and these can be performed anywhere, anytime and with or without any gadget. Asanas & Pranayama are the part of yoga practices and Aerobic exercises cover walking, swimming, cycling, jogging, stepping, aerobic dance and practically any rationalized physical activity. These are capable of rejuvenating the human mind and body. Specifically, when a baby girl born, in nearer future she is likely to be a wife and a mother. Menarche is a natural phenomenon that is gifted to the girls by God andthis emotional challenges before the onset of this cycle. Sometimes these problems obstruct a girl‟s whole cycle is experienced by every girl. She has to experience many physical & day to day life. Several studies have been led to measure effects of and how to cope with such a process. In this study, I made a concerted effort to measure up the impact of two training methods i.e. Yoga as well as Aerobic on Premenstrual syndrome amongst college girl students.

Yoga improves physical and mental fitness by eliminating stress and strain. By achieving a reasonable standard of physical fitness, one can do vigorous activities without fatigue and yoga helps in achieving such levels of physical endurance as well as mental bliss that may enable an individual to cope up with physical as well as mental challenges in day to day life (Morehouse, 1982) Dr. Kamakhya Kumar said “Yoga is the integrity of body, mind and spirit through a system of Asana, Pranayama and meditation. This integration of body, mind and spirit helps to achieve a balance (physically & mentally) in an individual‟s life as well as inner peace. Yoga is an effective method to improve our health and to manage diseases.”(Kumar, 2012) .The exercises related to aerobic improve muscles flexibility, development and oxygen consumption. The term “With oxygen” is associated with aerobic; it means proper usage of oxygen in the process of energy generation and the metabolic process

of the body. The individual cardiovascular endurance or aerobic capacity is 4 one of the important points for health fitness and is defined as how effectively and efficiently oxygen is supplied and utilized within the body while doing aerobics physical activities. The aerobic activities are directly or indirectly related to many body organs and help to know about the components of health and generally help to know the whole body fitness level and health. Both mental and physical health can be increased when there is a rise in aerobic fitness (Frank, 1943).As adolescent girls may have poor knowledge about reproductive health aspect it is essential to empower them. A path towards empowerment is through education, as appropriate education should aim at developing the skills and abilities of adolescents, which enable them to deal effectively with the demands and challenges of everyday life, in positive and beneficial ways. However, adolescents are not incorporated into the realm of health education in a large number of developing countries, where theory-based behavior change strategies are rarely imparted (KamlaRaj, 2008; Sinha Achala, 2006; population and health Indoshare, 2006). Hence the researcher decided to empower adolescent girls about menstrual problems especially on menstrual hygiene, premenstrual syndrome and its management through theorybased yoga intervention, as they are a promising group to the country's development.Menstrual problems Menstruation is typically a universal event during a woman's reproductive life, and up to 90% perceive one or more symptoms during the days before menstruation, and nearly all components of normal functioning of women can be affected by the changes related to phase of the menstrual cycle in either a negative or a positive way (Campagne & Campagne, 2007). More common problem associated with menstruation are headache, backache, dysmenorrhea, irregular periods, premenstrual syndrome (Parker,sheddon, & Arbon, 2010; Houston et al., 2006).Premenstrual Syndrome (PMS) Premenstrual syndrome (PMS) refers to a group of physical and psychological symptoms occurring during the luteal phase (7 to 14 days prior to menstruation) of menstrual cycle and relieved by the onset of menses. The complaints include emotional instability,

depression, anxiety, irritability and impulsivity, sense of bloating, breast tenderness, fatigue and changes in appetite. Some of the extant definitions of PMS include those from University of California, ICD-10 and ACOG. The University of California at San Diego (1992) had developed a definition of PMS based on women's prospective self-reports. This definition requires, the patients to have the cyclic manifestation of at least one of the six affective symptoms and one of the four somatic symptoms during the five days before menses, in each of the three prior menstrual cycles. The listed affective symptoms are depression, angry outbursts, irritability, anxiety, confusion, social withdrawal and the somatic symptoms include breast tenderness, abdominal bloating, headache, swelling of extremities. These symptoms are relieved within four days of the onset of menses, without recurrence until at least cycle day 13.PMS and yoga Several yoga poses are proven to ease menstrual pain. It can also help our mind and body adapt to stress, anxiety and depression making us feel relaxed, calm and enabling us to cope with psychological symptoms of PMS. Having a generally 9 relaxed mind and body can also help in alleviating the menstrual pain and affective somatic symptoms of PMS (Max Lifestyle International, 2008) Yoga relaxation techniques affects the sympathetic and parasympathetic components of autonomic nervous system, thereby affecting the vital physiological functions that govern heart rate, blood pressure, respiration, temperature, muscle tension and sweating. This yoga relaxation technique exercise eliminates muscular tension, reduces stress, improves sleep, calms down anxiety and affective symptoms of PMS (Anice George, 2011; Jyoti Dvivedi, 2007).Primary dysmenorrhea is by far a common gynecologic problem in menstruating women. It is so common that many women fail to report it in medical interviews, even when their daily activities are restricted. The prevalence of primary dysmenorrhea decreases with increasing age. The incidence of menstrual pain is greatest in women in their late teens and 20s, then declines with age. An estimated 10 percent to 15 percent of women experience monthly menstrual pain severe enough to prevent normal daily function at school, work, or home. According to Medical

online that menstrual cramps of some degree affect more than an estimated 50% of women and among these 15% of women would describe their menstrual cramps as severe.

Core strengthening allows the small intrinsic musculature surrounding the lumbar spine to be conditioned for greater performance, this type of training allows for isolation and strengthening of core muscle groups. When these muscles are strong, they are much more prepared to handle daily forces of normal biomechanics, even when the body is under the stress of the menstrual cycle. Core strengthening is a description of the muscular control around the lumbar spine to maintain functional stability [14]. Aim of this study is to assess the effectiveness of stretching and core strengthening exercises in the management of symptoms associated with primary dysmenorrhea and compare between them as regard the intensity and duration of pain.

STATEMENT OF THE PROBLEM

The aim of the study is a comparison of the effects of Core and yoga on menstrual pain and Selected Physiological variable of adolescence girls.

OBJECTIVES OF THE STUDY

The study was conducted keeping in mind towards the attainment of the following objectives

To examine of menstrual pain and selected physiological variables of adolescencet girls.

To investigate the effects of core Training on menstrual pain and selected physiological variables of adolescent girls.

To examine the effects of Yoga Training on menstrual pain and selected physiological variables of adolescent girls.

To compare the effects of Core and Yoga training on menstrual pain and selected physiological variables of adolescence girls.

DELIMITATIONS

The study will be delimited to the following:

The study will be delimited to the age group from 18 to 20 years.

The study will be restricted to 30 subjects only.

Duration of Training period was delimited to 8 weeks with two session in a day (45 Minutes) on 3 days per weeks.

The study will limited to menstrual pain and selected physiological variables only.

LIMITATION

The hereditary and environmental factors, which would influence the criterion variables, were.

Methodological variations such as air temperature, atmospheric 62 pressures, relative humidity etc. during testing periods, could not be controlled and their possibility influence on the result

Day to day activities, rest period, food habits and life style could not be controlledult. recognized as limitation.

DEFINITION & EXPLANATION OF TERMS USED

Yoga: "To regulate breath, to accomplish concentration of mind and for proper health and relaxation of mind and body, yoga is practiced that is both a combination of physical, ascetic and mental discipline"(Majumdar, 1999).

Yoga is an ancient philosophy of life as well as a system of exercises that encourages the union of mind, body, and spirit. In the words of Patanjali, author of the Yoga Sutras, "yoga is the ability to focus the mind on a single point without distraction." Yoga is a

physical discipline; it uses the body and breathing to develop self-awareness and mental clarity.

Asana: Patanjali has defined asana as “Sthir Sukham Asanam means steady and comfortable posture”. (Peter, 2006).

Core Training: Core training is a type of exercise that strengthens and stabilizes the muscles in your core, which is the central part of your body. The core includes the lower back, hips, pelvis, and stomach muscles, which are sometimes called abs.

Core training is a form of exercise that focuses on strengthening and stabilizing the muscles of the trunk, including the abdominals, back, hips, and pelvis. These muscles are essential for maintaining good posture, balance, and movement quality, as well as preventing injuries and pain.

SIGNIFICANCE OF THE STUDY

This current study would definitely help to know the occurrence of menstrual among College girls.

This present study would help to know the health status of College girls diagnosed with menstrual pain .

The results or outcome of the present study would definitely help the girls in the treatment of menstrual pain.

This study would promote yoga and corec training in society to treat different health problems.

The results of the study would provide ideas for further research to know the training effects of core training and yoga on the other health-related issues.

Further research can be conducted with yoga and core training as combined training.

The study would be helpful for students to improve their yogic skills.

The results of the study would be helpful in improving core capacity of the girl students.

CHAPTER-2

REVIEW OF RELATED LITERATURE

The effort has been made by the researcher to locate literature related to this study. The relevant study found from various, sours, which the researcher has come across, are citied below.

Kc et al.(2022) in thisstudy Premenstrual syndrome and dysmenorrhea are most common gynecological disorders associated with reduced quality of life among women of reproductive age. This study aims to compare the premenstrual syndrome and dysmenorrhea before and after practice of yoga among women of reproductive age living in Kathmandu, Nepal. Surya Namaskar, Surya Kriya and Shambhavi Mahamudra were common yoga types practiced by participants. A retrospective pre-post study with concurrent mixed method design was used. Study respondents were 41 women of reproductive age. Numeric pain rating scale and Premenstrual syndrome scale were used for quantitative data collection. Interview guide was used for the qualitative data collection. Google form was used for quantitative data whereas telephone was used for an in-depth interview. R-4.2.1 software was used for the quantitative data analysis. All outcome variables pain intensity score (Baseline: 6.46±2.31, Endline: 3.71±2.24, $p<0.0001$), pain duration in hour (Baseline: 6, Endline 2.5, $p<0.0001$) and premenstrual syndrome score (Baseline: 104.73±33.28, Endline: 74.24±22.08, $p<0.0001$) were significantly different after practice of yoga as compared to before yoga practice. Qualitative findings supported the quantitative result and presented expansive finding as yoga may be beneficial for management of irregular menstrual cycles and polycystic ovarian syndrome as well.

Tsaietal.(2016)Inthisstudythe yoga sessions offered for premenstrual syndrome sufferers, but it's unknown how effective they are.We looked at how 12 weeks of yoga practise (a yoga inte

rvention) affected premenstrual symptoms in Taiwanese women who were menstruation.Sixt yfour subjects finished the yoga intervention, and both before and after the intervention, they answered a structured selfreport questionnaire regarding their ages, lifestyles, menstrual statu s, premenstrual symptoms, baseline menstrual pain ratings, and quality of life in terms of thei r health.90.6% of the 64 participants said they had pain throughout their period.Both the mod erate or severe impacts of menstrual pain on work and the usage of analgesics during menstru ation decreased after the yoga intervention ($p = 0.0290$ and $p = 0.0011$, respectively).The imp rovement of the physical function scale was linked to the yoga exercise intervention ($p = 0.03$ 40), andabdomen swelling ($p = 0.0011$), breast tenderness ($p = 0.0348$), stomach cramps ($p =$ 0.0016), and cold sweats ($p = 0.0143$) of the SF36 were all considerably reduced.After practis ing yoga, there was a correlation between reduced menstrual discomfort and improvements in the SF36's physical function, bodily pain, overall health perception, vitality/energy, social fu nction, and mental health scales.Employers should raise awareness among female staff memb ers about the advantages of regular exercise, such as yoga, which may lessen premenstrual dis comfort and enhance employee wellness.

Soni et al.(2021) The aim of the study was to find out the effectiveness of Pilates and self-stretching on pain and quality of life in primary dysmenorrhea. In this study 38 female subjects meeting inclusion criteria were selected. Subjects were randomly divided into two groups. Group – A was treated with Pilates and Group – B was treated with Self-stretching. Both interventions were given for 30 minutes for 3 days per week for 4 weeks. To assess pain intensity Visual Analogue Scale was used and to assess quality of life Menstrual Distress Questionnaire was used. Both the outcome measures were assessed before and after treatment on the day of maximum pain intensity of menstrual cycle.

Prakash K.C. & Bhandary(…….) 1 Masters of Public Health (MPH) Student, 2 Assoc. Prof., School of Public Health, Patan Academy of Health Sciences, Lalitpur, Nepal ABSTRACT Introduction: Premenstrual syndrome and dysmenorrhea are most common

gynecological disorders associated with reduced quality of life among women of reproductive age. This study aims to compare the premenstrual syndrome and dysmenorrhea before and after practice of yoga among women of reproductive age living in Kathmandu, Nepal. Surya Namaskar, Surya Kriya and Shambhavi Mahamudra were common yoga types practiced by participants.

Günebakan et al.(2023) This study was planned to examine the efects of tele-yoga training on menstrual symptoms, quality of life, anxiety-depression level, body awareness, and self-esteem in healthy women. Thirty-two healthy premenopausal women between the ages of 18 and 45 were included in the study. The women were randomly divided into two groups as tele-yoga training (n: 16) and the control group (n: 16). The tele-yoga training was performed on the Zoom software for 6 weeks, 2 times a week and 45 min a day. No intervention was made in the control group. Menstrual pain and symptoms by Menstrual Symptom Scale (MSS), quality of life by Nottingham Health Profle (NHP), depression levels by Beck Depression Scale (BDS), anxiety levels by State and Trait Anxiety Scale (STAI), body awareness by Body Awareness Questionnaire (BAQ), and self-esteem by Rosenberg Self-Esteem Scale (RSES) were determined. s In the tele-yoga training group, statistically signifcant improvements were observed in the MSS total ($p=0.001$), negative efects ($p=0.003$), menstrual pain symptoms ($p=0.003$), coping methods ($p=0.001$) sub-parameters, BDS score ($p=0.000$), NHP sleep ($p=0.021$), energy ($p=0.002$), emotional ($p=0.000$), and isolation ($p=0.039$) sub-parameters. In the control group, there was statistically signifcant worsening in the NHP total score ($p=0.000$). As regards the diferences in values between the two groups, there were statistically diference in favor of the training group in sub-parameters of MSS, NHP sleep, energy, emotional, and isolation sub-parameters, and BDS and BAQ scores ($p<0.05$). It is thought that tele-yoga training may be a safe and efective method in reducing menstrual symptoms and depression, increasing quality of life, and body awareness.

Sutar et al.(2016) In this study discus about Dysmenorrhea, a common problem in women of reproductive age, is a very serious problem that can often directly affect the quality of life and cause periodic college absenteeism. Exercise is commonly cited as a probable remedy for menstrual symptoms with limited research available.The purpose of this study was to observe the effect of aerobic exercises on Primary dysmenorrhoea.Methods: Study was a randomized clinical trial. Participants were 100 female college students who were divided in “exercise “and “control”groups. The “exercise group” was given Aerobic exercises and results of three cycles were registered. Outcome measures were VAS for Pain and SF36 for Quality of life. Data was analyzed using paired t test, chi square test and z test for statistical significance. Results: The results showed that pain (VAS scores) in the exercise group declined significantly. The VAS scores started to decrease just after the beginning of the exercise intervention and continued to decrease in the subsequent three visits and was statistically significant ($p<0.05$).The Physical Domain of Quality of life showed significant difference in the exercise group.Conclusion: Aerobic exercises can help to reduce pain and improve physical symptoms which has a positive impact on quality of life in primary dysmenorrheal girls.

Rossaneis et al.(2016) This study Discus about to investigate differences with regard to foot self-care and lifestyle between men and women with diabetes mellitus. Method: cross-sectional study conducted in a sample of 1,515 individuals with diabetes mellitus aged 40 years old or older. Poisson regression models were used to identity differences in foot self-care deficit and lifestyle between sexes, adjusting for socioeconomic and clinical characteristics, smoking and alcohol consumption. Results: foot self-care deficit, characterized by not regularly drying between toes; not regularly checking feet; walking barefoot; poor hygiene and inappropriately trimmed nails, was significantly higher among men, though men presented a lower prevalence of feet scaling and use of inappropriate shoes when compared to women. With regard to lifestyle, men presented less healthy habits, such

as not adhering to a proper diet and taking laboratory exams to check for lipid profile at the frequency recommended. Conclusion: the nursing team should take into account gender differences concerning foot self-care and lifestyle when implementing educational activities and interventions intended to decrease risk factors for foot ulceration.

Dehnavi et al.(2018) The present study was a clinical trial with registration code (IRCT2015021721116N1) and Code of ethics (code 931232) on 70 students of student dormitories at Mashhad University of Medical Sciences in 2015. Independent variable was aerobic exercise and the dependent variable was primary dysmenorrhea. Based on a pilot study conducted on 10 Participants, taking $\alpha = 0.05$ and $\beta = 0.2$, Given the sample loss, the sample size was estimated to be 35 (35 controls and 35 intervention groups). The results of this study showed that the mean age of the intervention group was 41/4 ± 22/25 and the control group was 71/4 ± 06/24. 77.1% (27 persons) in the intervention group and 40% (18 persons) in the control group were single controls. 62.9% (22 persons) in the intervention group and 70% (21 persons) in the control group had a history of absenteeism from the work or class due to dysmenorrhea. Also, 45.7% (16 patients) of the intervention group reported a history of using the treatment. The duration of bleeding was 41/1 ± 6/6 days in the intervention group and was 34/1 ± 33/in the control group days. The menstrual periods in the intervention group were 34/69 ± 3/68 and 27/63 ± 3/39 in the control group. The severity of menstrual pain before intervention was 4/02 ± 3/52 in the intervention group and was 3/80 ± 2/85 in the control group. To examine the homogeneity of control and intervention groups in terms of age, marriage, history of treatment, type of treatment, effect of treatment, duration of bleeding, menstrual periods, dysmenorrheal pain, diet, menarche age and history of syndrome in first degree relatives (mother, sister) performed statistical tests that were homogeneous. According to a special purpose, statistical analysis was performed on dysmenorrhea.

Joshi et al.(2015) Dysmenorrhea is a common gynecological condition with painful cramps of uterine origin. Severe dysmenorrhea pain is associated with restriction of activity and

absence from workplace. The impact of dysmenorrhea on quality of life has been enunciated rarely, especially in Indian context. In a cross-sectional study, data were collected among 310 young girls (18–25 years) on age at menarche, presence and absence of dysmenorrhea, premenstrual symptoms (PMS), quality of life, physical activity, and dietary habits using semi-structured questionnaire. : Dysmenorrhea was reported in 84.2% (261) of girls, and 15.8% (49) reported no dysmenorrhea. Majority of girls (91%) have reported PMS; symptoms were irritability (42.9%), leg cramps (40.4%), abdominal pain (40.1%), emotional instability (29.8%), fatigue (23.4%), dizziness (17.7%), breast pain (16.3%), and anxiety (10.3%). Girls who had dysmenorrhea were 4.9 times more likely to be absent in college, 3.1 times more chance of reduced physical activity, 3.2 times more chance of loss of concentration during workplace, and 2.4 times more likely to have poor work satisfaction compared with other girls with no dysmenorrhea ($p < 0.05$). Meal skipping was significantly associated with dysmenorrhea, and thus increases the prevalence of dysmenorrhea by 2.0 times ($p < 0.05$).

Yonglitthipagon et al.(2017) The aim of the present study was to investigate effect of specially designed yoga program on the menstrual pain, physical fitness, and quality of life (QOL) of non-athlete women with primary dysmenorrhea (PD) aged 18–22 years. Thirty-four volunteers were randomly assigned into control and yoga groups. Menstrual pain, physical fitness, and QOL were evaluated at baseline and at the end of the 12-week study period. The yoga group was asked to practice yoga for 30 min per day, twice a week, for 12 weeks at home, while the control group did not receive any form of exercise over the study period. There were significant improve in menstrual pain, physical fitness, and QOL in the yoga group more than the control group. Therefore, this specially designed yoga program may be a possible complementary treatment for PD. Thirty-four participants completed the intervention programme and participants' adherence to the 12-week of intervention was 100%. In addition, no adverse effects of yoga training were observed.The mean ages for the yoga group

and the control group were 19.71 and 20.06 years, respectively, and not significantly different. No statistically significant differences were found between the two groups for age at onset of menstruation, age of dysmenorrhea, menstrual pain intensity on VAS.

CHAPTER-3

METHOD AND PROCEDURE OF THE STUDY

In this selection of the subjects, experimental design, selection of the variables, selection of the tests, Orientation of the subjects, training program, test administration and statistical technique have been presented .This chapter deals with research design, selection and description of sample, training schedule, the procedure for data collection, administration of tools and statistical techniques of analysis employed to test the hypotheses. The present study was performed to know the effects of aerobic and yoga on Menstrual pain, physical fitness and quality of life among school girls.

DESIGN OF THE STUDY

The selection of research method largely depends on the problem of nature. During the first stage of the study, descriptive experimental method will use. And at the second stage, the method used will experimental design and it use pre and post-test that was totally based on random group design method. The present study tries to look at the effects of Core Training and yoga on Menstrual pain and core training among adolescence girls. Descriptive experimental method will be employed to see the prevalence, physical fitness of menstrual pain and quality of life among adolescenet girls. In this method, the data will collected by using questionnaires. Subjects will be selecte for experimental study by using random purposive sampling. The experimental design based on the random group design and have included pre and post-test to know the effects of core training and yoga on Menstrual pain and physiological variables among adolescence girls. All three groups comprised of

adolescence girls diagnosed with moderate to strong menstrual pain, and nearby Gwalior. Both Experimental Groups will be given Yoga training and Core training for Menstrual pain.

Total subjects=30

Age Group= 18-20Years

SELECTION OF SUBJECT

Total 36 adolescence girls will be taken as subjects for the study. The subjects will collect from college girls LNIPE(Gwalior). The purposive sampling technique will be use to select the subjects. All of them aged between 18to 20years.

SAMPLING TECHNIQUES

Sampling is a process that is used to select a few from a large population. It is not possible to involve a large sample in a research work especially in an experimental study. To make the research work practical and accessible sampling techniques are used. Sampling techniques play an important role to achieve the objectives of the research. The randomized purposive sampling technique will be use for the identification and selection of sample for experimental study.

VARIABLES SELECTION

The investigator will go through the relevant related literature, suggestions and opinions of the guide and experts in this area. Keeping in view the feasibility and availability of tools and to attain the objectives of the current study, a number of variables have been select and mentione below:

DEPENDENT VARIABLES

Menstrual Pain.

Selected Physiological Variables:

RHR

HRV

VC

BP

RBC

HB

TRIGLISARIDE

Fat free mass

INDEPENDENT VARIABLES

Yoga Training

Paschittansana

Bhujangasana

Uttanasana

Halasana

Ananda balasana

Naukasana

Dhanurasana

Salvasana

Uttanpadasana

Pavanmuktasana

B. Core Training

Curl up

Plank

Crunches

Leg lifts hang

Oblique leg lift

Jack knife sit up

Pelvic bridge

Decline crunches

Barbel side bend

CRITERION MEASURE

By Examining the literature and consulting with the subject matter exparts. The criterion measurments for this studys hypothesis testing were chosen to be menstrual pain. I will use to measure these variabeles:

Neumeric Pain Rating Scale will be used to measure menstrual pain, Mild to severe pain according to NPRS.

 Vital capacity was assessed with the use of digital spirometer and reading was recorded in liters

. □ Vo2 max was assessed by Queens College step test and the value was calculated with the help of the formula in ml/kg/min.

□ Red blood cell was assessed by the help of the complete blood count CBC test .

□ Hemoglobin concentration was assessed by the help of complete blood count CBC tes

Pre-test will be conduct before the beginning of 10weeks training program . After the 10 weeks training post data will be cloucted.

ADMINISTRATION OF THE TEST

Following Tools will be used to collect data for dependent variables:

To measure menstrual pain, the tools used were:

- **Description of tools for Dependent Variables:**

Menstrual pain will measured using a Numeric pain rating Scale (NPRS). Menstrual pain measured during pre-test and post-test using a prestructured questionnaire to collect data required for exploring the effects of Yoga and a Core training on menstrual pain .

TRAINING SCHEDULE FOR YOGA GROUP

Ten minutes for Warm Up, followed by Specific Asanas for twenty-five minutes, followed by Cool down for ten minutes

Stages	Weeks	Asanas	Repetition	Hold Time	Rest Between Asanas
	1-2	Standing Sitting Kneeling	1	5-10 Seconds	30 Seconds

Initial Stage		Prone Supine			
	3-4	Standing Sitting Kneeling Prone Supine	1	10-15 Seconds	30 Seconds
Improvement Stage	5-6	Standing Sitting Kneeling Prone Supine	2	15-20 Seconds	30 Seconds
Maintenance Stage	7-8	Standing Sitting Kneeling Prone Supine	3	25-30 Seconds	30 Seconds

SPECIFIC ASANAS NAMES AND POSITIONS

POSITION	ASANAS NAMES
Sitting	Pashchimotanasana Gomukhasana balasana

Standing	Uttanasana
Kneding	Ustrasana
Prone	Bhujangasana Naukasana Dhanurasana Salvasana
Supine	Halasana Uttanpadasan Pawanmuktasana Naukasana Anandabalasana

TRAINING SCHEDULE FOR AEROBIC GROUP

Ten minutes for Warm Up, followed by Aerobic exercises for twenty-five minutes, followed by Cool down for ten minutes

Stages	Weeks	Intensity	Aerobic Exercises
Initial Stage	1-2	60%	walking
	3-4	65%	Walking
Improvement Stage	5-6	70%	Jogging in place, jump on the spot V- shape
	5-6	75%	Cross over step Alternet knee lift

Maintenance Stage	7-8	80%	Front kick 8 figure and jump

CHAPTER-4

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